IN THE CLAIMS

1. (original) A method for continuously producing preselected lengths of coiled plastic tubing, said method comprising the steps of:

a) providing a main tube shaft having a longitudinal axis;

b) rotating said main tube shaft about said longitudinal axis;

c) providing plastic tubing to be coiled about said main tube shaft;

d) winding said plastic tubing onto said rotating main tube shaft at an oblique angle relative thereto from a first point on said main tube shaft to produce a coil of said plastic tubing of gradually increasing length along said main tube shaft;

e) heating said coiled plastic tubing at a second point downstream from said first point to soften said coiled plastic tubing;

f) cooling said coiled plastic tubing at a third point downstream from said second point to set said plastic tubing in a coiled form; and

g) cutting said coiled plastic tubing at a fourth point downstream from said third point at preselected intervals to obtain said preselected lengths of coiled plastic tubing.

2. (original) A method as claimed in claim 1 wherein said rotating step is continuous and occurs at speeds in a range from 1 rotation per minute to 1000 rotations per minute.

3. (original) A method as claimed in claim 1 wherein said heating step heats said coiled tubing to a temperature in a range from 400.degree. F. to 700.degree. F.

4. (original) A method as claimed in claim 1 wherein said cooling step comprises directing cooler-than-ambient air onto the previously heated coiled tubing.

5. (currently amended) A coiling system for continuously forming coiled plastic tubing in preselected lengths, said coiling system comprising:

a main tube shaft for forming plastic tubing into a helix, said main tube shaft having a longitudinal axis;

a motor, said motor being attached to one end of said main tube shaft, said motor being for rotating said main tube shaft about said longitudinal axis;

a tube guide ~~at~~ mounted with respect to a first point on said main tube shaft, said tube guide having a gap through which said plastic tubing is directed onto a predetermined point on said main tube shaft, said gap making an oblique angle with respect to said main tube shaft so that said plastic tubing may be wound onto said main tube shaft in a helical form;

a heat source at a second point on said main tube shaft, said second point being downstream from said first point, said heat source being adapted to heat coiled plastic tubing at said second point;

a cooling apparatus at a third point on said main tube shaft, said ~~second~~ third point being downstream from said second point, said cooling apparatus being adapted to cool coiled plastic tubing at said ~~second~~ third point to set said plastic tubing into a coiled form; and

a cutter at a fourth point on said main tube shaft, said fourth point being downstream from said third point, said cutter being adapted to cut coiled plastic tubing into preselected lengths by operating at preselected intervals of time.

6. (original) A coiling system as claimed in claim 5 wherein said main tube shaft tapers from one diameter to a smaller diameter along at least a portion of its length.

7. (original) A coiling system as claimed in claim 5 wherein said motor rotates said main tube shaft at speeds in a range from 1 rotation per minute to 1000 rotations per minute.

8. (original) A coiling system as claimed in claim 5 wherein said heat source is a heat gun.

9. (original) A coiling system as claimed in claim 5 wherein said heat source heats coiled tubing to a temperature in a range from 400.degree. F. to 700.degree. F.

10. (original) A coiling system as claimed in claim 5 wherein said cooling apparatus is a cool-air source.

11. (original) A coiling system as claimed in claim 10 wherein said cool-air source has a vortex cooling tube.

12. (original) A coiling system as claimed in claim 5 wherein said cutter includes a blade, said blade being adapted to cut said plastic tubing against said main tube shaft.

13. (original) A coiling system as claimed in claim 5 wherein said fourth point is at an end of said main tube shaft opposite to said motor, and wherein said cutter surrounds said main tube shaft and is coaxial therewith, and further comprising a carousel for collecting preselected lengths of coiled plastic tubing cut by said cutter, said carousel having a plurality of shafts, each of said shafts being, in turn, aligned with said main tube shaft as said carousel is rotated stepwise at preselected intervals and collecting a preselected length of coiled plastic tubing, said cutter being adapted to cut said plastic tubing as said carousel is making a stepwise rotation.

14. (currently amended) A coiling system as claimed in claim ~~5~~ 13 wherein said cutter has a stationary inner element and a rotatable outer element, each of said elements having a cutting edge adapted to cut plastic tubing in a scissor-like manner when said plastic tubing is stretched therebetween when said carousel makes a stepwise rotation.

15. (new) A coiling system as claimed in claim 5 wherein said main tube shaft includes a first tube shaft portion located at said predetermiend point on said main tube shaft and having a

surface with a sufficient frictional force to assist in winding said plastic tubing onto said main tube shaft in a helical form.

16. (new) A coiling system as claimed in claim 15 wherein said first shaft portion comprises UHMW polyethylene.

17. (new) A coiling system as claimed in claim 15 wherein said main tube shaft includes a second tube shaft portion downstream of said first tube shaft portion and having a surface with a lower frictional force than said first tube shaft portion to assist in removal of said helically wound plastic tubing from said main tube shaft.

18. (new) A coiling system as claimed in claim 17 wherein said second shaft portion comprises a metal surface.